



# CERTIFIED MAIL RETURN RECEIPT REQUESTED

February 24, 1994

Regional Administrator
United States Environmental
Protection Agency, Region 5
ATTN: Darryl Owens
Mail Code 5HS-11
230 South Dearborn Street
Chicago, Illinois 60604

President Reilly Industries, Inc. 1510 Market Square Center 151 North Delaware Indianapolis, Indiana 46204 Director, Solid and Hazardous
Waste Division
Minnesota Pollution Control Agency
ATTN: Site Response Section
520 Lafayette Road North
St. Paul, Minnesota 55155

Commissioner
Minnesota Department of Health
717 Delaware Street S.E.
P.O. Box 9441
Minneapolis, MN 55440

RE: United States of America, et al. vs. Reilly Tar & Chemical Corporation, et al. File No. Civ. 4-80-469

Gentlemen and Commissioner O'Brien:

In a letter dated January 25, 1994, the City advised the Parties that it had commenced the monitoring of Prairie du Chien-Jordan Aquifer well SLP6 pursuant to the provisions of Section 12.1 of the Remedial Action Plan (RAP) in the referenced case. The first round of monitoring conducted on January 20 pursuant to Section 12.1 of the RAP, yielded results of 148 and 160 parts per trillion (ppt), below the established Advisory Level of 175 ppt. The second round of monitoring, conducted on February 8, yielded results of 74 ppt and 97 ppt (see enclosed).

Pursuant to the provisions of Section 12.1 of the RAP, the monitoring of SLP6 has been discontinued.

Sincerely, James M. Srube

James N. Grube

Director of Public Works

JNG/cmr enclosure

cc: Elizabeth Thompson (w/o enclosure)

Reilly File (w/enclosure)



#### CASE NARRATIVE

**FOR** 

City of St. Louis Park

February 21, 1994

Enseco - RMAL Project Number 033713

### <u>Introduction</u>

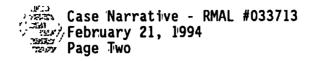
Six aqueous samples (includes QC) were received at Enseco Rocky Mountain Analytical Laboratory on February 09, 1994. The samples were logged in under RMAL project number 033713 Sample PCJ-SLP6FBD-020894 was extracted and held per the April 1990 QAPP. A cross reference associating the RMAL sample numbers to the actual field sample numbers is included. The samples were analyzed for low level part-per-trillion (ppt) polynuclear aromatic hydrocarbons (PAH).

#### Data Quality Assessment

The results contained in this report were reviewed relative to data acceptance criteria as specified in the April, 1990 QAPP for completeness, precision, accuracy, representativeness and defensibility of the data. Unless otherwise stated below, no quality control problems or technical difficulties were encountered which would impact the interpretation or use of data in this report.

### PPT PAH

The percent recovery for Benzo(E)Pyrene was below QC limits in samples 033713-0001MS/SD. The RPD for Fluorene was outside QC limits for sample 033713-0001MS/SD. Since acceptable recovery was achieved for all other spike components, quantitation was checked and no further action was taken.



The 4800 ng/ml and the 2400 ng/ml standards had excessive saturation, therefore they were not used as the upper range for the 5-point calibration curve. Instead, the calibration curve used was, 20 ng/ml, 40 ng/ml, 240 ng/ml, 600 ng/ml, and 1200 ng/ml.

All samples associated with project 033713 show target compounds that do not meet secondary ion confirmation. In some instances a compound that does not meet secondary ion confirmation criteria may still be determined to be present in the sample after close inspection of the data by the analyst. Supportive data includes mass chromatograms maxima at the same scan for primary and secondary ions, as well as discernible quantitation interference with the secondary ion. These compounds are flagged with the letter (R) on the data sheets (Form I) as per the 1990 QAPP.

This data package is in compliance with the terms and conditions of the 1990 QAPP, both technically and for completeness, for other than the conditions detailed above.

Reported by: Kinn J. Heman

Karen F. Germann

Program Administrator

Program Manager

Date: February 21, 1994.



# SAMPLE DESCRIPTION INFORMATION for City of St. Louis Park

Lab ID	Client ID	Matrix	Sampl Date	ed Time	Received Date
033713-0001-SA	PCJ-SLP6-020894	AQUEOUS	08 FEB 94		09 FEB 94
033713-0001-DU	PCJ-SLP6D-020894	AQUEOUS	08 FEB 94		09 FEB 94
033713-0001-MS	PCJ-SLP6MS-020894	AQUEOUS	08 FEB 94		09 FEB 94
033713-0001-SD	PCJ-SLP6MSD-020894	AQUEOUS	08 FEB 94		09 FEB 94
033713-0001-FB	PCJ-SLP6FB-020894	AQUEOUS	08 FEB 94		09 FEB 94
033713-0001-FD	PCJ-SLP6FBD-020894	AQUEOUS	08 FEB 94		09 FEB 94



# ANALYTICAL TEST REQUESTS for City of St. Louis Park

Lab ID: 033713	Group Code	Analysis Description	Custom Test?
0001 , 0001	A	Polynuclear Aromatic Hydrocarbons, SIM Low Level	'n
		Prep - PAH/SIM by GC/MS Low Level	N
0001	В	Prep - PAH/SIM by GC/MS Low Level	N



## Qualifier Codes and Their Usage

- U = Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For example, 10 U for phenol in water if the sample final volume is the protocol-specified final volume. If a 1 to 10 dilution of extract is necessary, the reported limit is 100 U. For a soil sample, the value must <u>also</u> be adjusted for percent moisture.
- J = Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L, but a concentration of 3 ug/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for dilution as discussed for the U flag.
- N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results.
- P = This flag is used for a pesticide/Aroclor target analyte when there is greater then 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
- C = This flag applies to pesticide results where the <u>identification</u> has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do <u>not</u> apply this flag, instead use a laboratory-defined flag, discussed below.
- B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified target compound.

Enseco Incorporated 4955 Yarrow Street Arvada, Colorado 80002 303/421-6611 Fax: 303/431-7171

- E = This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. If one or more compounds have a response greater than full scale, except as noted in Exhibit D, the sample or extract must be diluted and re-analyzed accordingly to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate copies of Form I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number. NOTE: For total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately, e.g., a diluted analysis is not required for total xylenes unless the concentration of either peak separately exceeds 200 ug/L.
- D = This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag. This flag alerts data users that any discrepancies between the concentrations reported may be due to dilution of the sample or extract.
- A = This flag indicates that a TIC is a suspected aldol-condensation product.
- X = Other specific flags may be required to properly define the results. If used, they must be fully described, and such description attached to the Sample Data Summary Package and the SDG Narrative. Begin by using "X". If more than one flag is required, use "Y" and "Z" as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some sample. The laboratory-defined flags are limited to the letters "X", "Y", and "Z".
- R = This flag is used for polyaromatic hydrocarbons which show target compounds that do not meet secondary ion confirmation. In some instances a compound that does not meet secondary ion confirmation criteria may still be determined to be present in the sample after close inspection of the data by the analyst. Supportive data includes mass chromatograms maxima at the same scan for primary and secondary ions, as well as discernible quantitation interference with the secondary ion.



☐ Rocky Mountain Analytical Laboratory ☐ Enseco Houston 4955 Yarrow Street Arvada, CO 80002

1420 East North Belt Drive Suite 120 Houston, TX 77032

303/421-6611 FAX: 303/431-7171 A Corning Company 713/987-9767 FAX: 713/987-9769 **CHAIN OF CUSTODY** SAMPLE SAFETM CONDITIONS PACKED BY CITY OF ST LOUIS PARK WATER DEPT CONDITION OF CONTENTS SEALED FOR SHIPPING BY SAMPLING COMPANY INITIAL CONTENTS TEMP SAMPLING SITE 772131 SAMPLING STATUS Continuing Until ☐ Done TEAM LEADER SEAL INTACT UPON RECEIPT BY LAB CONTENTS TEMPERATURE UPON RECEIPT BY LAB .Ø Yes 2128 □ No SAMPLE ID/DESCRIPTION SAMPLE TYPE # CONTAINERS **ANALYSIS PARAMETERS** TIME COE FRY 100 -5686-020254 XI DIYSER 2.5.71 FCJ-5286D-020594 5.54 **CUSTODY TRANSFERS PRIOR TO SHIPPING** SHIPPING DETAILS **RELINQUISHED BY (SIGNED)** RECEIVED BY (SIGNED) DATE TIME 7718/ METHOD OF SHIPMENT

FN5-4011

ENSECO PROJECT NUMBER



☐ Rocky Mountain Analytical Laboratory
4955 Yarrow Street
Arvada, CO 80002
303/421-6611 FAX: 303/431-7171 Houston, TX 770

J Enseco Houston
1420 East North Belt Drive
Suite 120
Houston, TX 77032

713/987-9767 FAX: 713/987-9769 **CHAIN OF CUSTODY** SAMPLE SAFETM CONDITIONS ENSECO CLIENT SEAL NUMBER PROJECT ST LOUIS PARK WHIER DEDT SEAL INTACT UPON RECEIPT BY SAMPLING COMPANY CONDITION OF CONTENTS SAMPLING COMPANY SEALED FOR SHIPPING BY INITIAL CONTENTS TEMP °C SAMPLING STATUS TEAM LEADER ☐ Done Continuing Until SEAL INTACT UPON RECEIPT BY LAB CONTENTS TEMPERATURE UPON RECEIPT BY LAB **Q**\_Yes □ No SAMPLE ID/DESCRIPTION SAMPLE TYPE # CONTAINERS **ANALYSIS PARAMETERS** DATE PET-51P6FB-020844 7.8-44 1XLAMBER PEJ-SLPGFBD-020894 2-8-94 IXL AMBER

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ENS=4011



☐ Rocky Mountain Analytical Laboratory 4955 Yarrow Street Arvada, CO 80002 303/421-6611 FAX. 303/431-7171

☐ Enseco Houston
1420 East North Belt Drive
Suite 120
Houston, TX 77032

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SUMMARY

DATA

**PACKAGE** 

FOR

CITY OF SAINT LOUIS PARK RMAL No: 33713 Lab Name: ENSECO Contract:

(Y/N) N

GPC Cleanup:

33713-01

PCJ-SLP6-020894 SDG No.: Lab Code: ENSECO Case No.: 33713 SAS No.:

Matrix: (soil/water) WATER Lab Sample ID: 33713-01

4200 (g/mL) ML Sample wt/vol: Lab File ID: C8689

Level: (low/med) LOW Date Received: 02/09/94

Date Extracted: 02/09/94 % Moisture: decanted: (Y/N) N

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/14/94

2.0(uL) Injection Volume: Dilution Factor: 0.119

7.0

pH:

**CONCENTRATION UNITS:** CAS NO. **COMPOUND** (ng/L or ug/Kg) ng/L Q

271-89-6	2,3-Dibenzofuran	5	U
496-11-7	2.3-Dihydroindene	31	
95-13-6	2,3-Dihydroindene	i i i	
91-20-3	Naphthalene	š	BJR
4565-32-6	Naphthalene Benzo(B)Thiophene	—— i ž	IR
91-22-5	Quinoline	3 2 1 1 2 2 2 4 7	BJR
120-72-9	lH-Indole	— l i	J
91-57-6	2-Methylnaphthalene	<del></del>	B
90-12-0	2-Methylnaphthalene 1-Methylnaphthalene	——  <u> </u>	lŭ
92-52-4	Biphenyl	<del></del>	łŭ
208-96-8	Acenaphthylene	<del></del>   <del>j</del>	1
83-32-9	Acenaphthene	16	
132-64-9	Dibenzofuran	—-  -i	ไป
86-73-7	Fluorene	——	lB
132-65-0	Dibenzothiophene	6 1 3 1 3 2 1	lū
85-01-8	Phenanthrene	<del></del>   3	B
120-12-7	Anthracene	—— i	lŭ i
	Acridine	——   <u>3</u>	lŭ
	Carbazole	<del></del>   2	lŭ l
206-44-0	Fluoranthene	<del></del>	BJ
129-00-0	Pvrene		BJ
56-55-3	Benzo(A)Anthracene	——  ž	ĬŬ I
218-01-9	Chrysène	<del></del>   <u>-</u> 3	lŭ l
205-99-2	Benzo(B)Fluoranthene	<del></del>   ž	lŭ
207-08-9	Benzo(K)Fluoranthene	<del></del>	lŭ l
192-97-2	Benzo(E)Pyrene	<del></del>   <u>-</u> 2	lŭ l
50-32-8	Benzo(A)Pyrene	<del></del>   5	ķŭ
198-55-0	Pervlene	<u>2</u>	lŭ l
193-39-5	Indeno(1,2,3-CD)Pyrene	1 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2	:IŬ
53-70-3	Dibenz(A,H)Anthracene	<del></del>	֓֞֜֝֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓
1:01:-24-2	Benzo(G,H,I)Perylene	—–∣ 🧃	ľŭ l

Lab Name: ENSECO

Contract:

33713-01DU

Lab Code: ENSECO

Case No.: 33713

SAS No.:

PCJ-SLP6D-020894 SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: 33713-01DU

Sample wt/vol:

4200 (g/mL) ML

Lab File ID:

**C8690** 

Level:

(low/med) LOW Date Received: 02/09/94

% Moisture:

decanted: (Y/N) N

Date Extracted: 02/09/94

Concentrated Extract Volume:

Date Analyzed: 02/14/94

Injection Volume:

CAS NO.

2.0(uL)

COMPOUND

Dilution Factor:

0.119

GPC Cleanup:

(Y/N) N

7.0 pH:

500(uL)

**CONCENTRATION UNITS:** (ng/L or ug/Kg) ng/L

Q

271-89-62,3-Dibenzofuran   34   496-11-72,3-Dihydroindene   34   95-13-6				
496-11-72,3-Dihydroindene       34         95-13-6	271-89-6	2.3-Dibenzofuran	5	lu
91-20-3	496-11-7	2.3-Dihydroindene		
91-20-3	95-13-6	IH-Indene	<u> </u>	
Signature   Sign	91-20-3	Naphthalene	—   š	BJR
120-72-91H-Indole   2   J   91-57-62-Methylnaphthalene   4   B   90-12-01-Methylnaphthalene   2   BR   92-52-4	4565-32-6	Benzo(B)Thiophene	—   š	
120-72-91H-Indole   2   J   91-57-62-Methylnaphthalene   4   B   90-12-01-Methylnaphthalene   2   BR   92-52-4	91-22-5	Ouinoline	— i	BJR
91-57-62-Methylnaphthalene	120-72-9	1H-Indole		
208-96-8	91-57-6	2-Methylnaphthalene	<del></del>	
208-96-8	90-12-0	1-Methylnaphthalene	— l	
208-96-8	92-52-4	Biphenyl	— i	
Sade	208-96-8	Acenaphthylene	—–  <u> </u>	
132-64-9	83-32-9	Acenaphthene		
86-73-7	132-64-9	Dibenzofuran		
85-01-8Phenanthrene       5         120-12-7Anthracene       1         260-94-6Acridine       3         86-74-8Carbazole       2         206-44-0Fluoranthene       2         129-00-0Pyrene       1         56-55-3Benzo(A)Anthracene       2         218-01-9Chrysene       3         205-99-2Benzo(B)Fluoranthene       2         207-08-9Benzo(K)Fluoranthene       2         192-97-2Benzo(E)Pyrene       2         50-32-8Benzo(A)Pyrene       2         198-55-0	86-73-7	Fluorene	—  <u> </u>	B
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120-12-7Anthracene   1   U   260-94-6Acridine   3   U   86-74-8Carbazole   2   U   206-44-0Fluoranthene   2   B   129-00-0	85-01-8	Phenanthrene	—  <u> </u>	B
260-94-6	120-12-7	Anthracene	— i	
86-74-8Carbazole       2         206-44-0Fluoranthene       2         129-00-0	260-94-6	Acridine	—  <u> </u>	
206-44-0Fluoranthene       2 B         129-00-0	86-74-8	Carbazole	— j	
129-00-0	206-44-0	Fluoranthêne	—	
56-55-3			—  ī	
218-01-9Chrysene       3         205-99-2Benzo(B)Fluoranthene       2         207-08-9Benzo(K)Fluoranthene       2         192-97-2Benzo(E)Pyrene       2         50-32-8Benzo(A)Pyrene       2         198-55-0Perylene       2         193-39-5Indeno(1,2,3-CD)Pyrene       2         53-70-3Dibenz(A,H)Anthracene       2         191-24-2Benzo(G,H,I)Perylene       3	56-55-3	Benzo(A)Anthracene	—	
205-99-2Benzo(B)Fluoranthene       2         207-08-9Benzo(K)Fluoranthene       2         192-97-2Benzo(E)Pyrene       2         50-32-8Benzo(A)Pyrene       2         198-55-0Perylene       2         193-39-5Indeno(1,2,3-CD)Pyrene       2         53-70-3Dibenz(A,H)Anthracene       2         191-24-2Benzo(G,H,I)Perylene       3	218-01-9	Chrysene	—l <u>3</u>	1 -
207-08-9Benzo(K)Fluoranthene 2 10 192-97-2Benzo(E)Pyrene 2 10 50-32-8Benzo(A)Pyrene 2 10 198-55-0Perylene 2 10 193-39-5Indeno(1,2,3-CD)Pyrene 2 10 53-70-3	205-99-2	Benzo(B)Fluoranthene	— j	
192-97-2Benzo(E)Pyrene 2 U 50-32-8Benzo(A)Pyrene 2 U 198-55-0Perylene 2 U 193-39-5Indeno(1,2,3-CD)Pyrene 2 U 53-70-3Benzo(G,H,I)Perylene 3 U	207-08-9	Benzo (K) Fluoranthene	—\	เบ
50-32-8Benzo(A)Pyrene 2 198-55-0Perylene 2 193-39-5Indeno(1,2,3-CD)Pyrene 2 53-70-3Dibenz(A,H)Anthracene 2 191-24-2Benzo(G,H,I)Perylene 3	192-97-2	Benza(F)Pyrene	<del></del>   5	
198-55-0Perylene 2 193-39-5Indeno(1,2,3-CD)Pyrene 2 53-70-3Dibenz(A,H)Anthracene 2 191-24-2Benzo(G,H,I)Perylene 3	50-32-8	Renzo(A)Pyrene	<u></u>   5	
193-39-5	198-55-0	Pervlene	—  5	
53-70-3	193-39-5	Indeno(1.2.3-CD)Pyrene	<b>─</b>   5	
191-24-2Benzo(G,H,I)Perylene3	53-70-3	Dibenz(A.H)Anthracene	<del></del>   5	
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33713-01FB

Lab Name: ENSECO

Contract:

PCJ-SLP6FB-020894

Lab Code: ENSECO

Sample wt/vol:

Case No.: 33713

SAS No.:

SDG No.:

Matrix: (soil/water) WATER

4200 (g/mL) ML

Lab Sample ID: 33713-01FB

C8687

Level:

(low/med) LOW Lab File ID:

% Moisture:

Date Received: 02/09/94

decanted: (Y/N) N

Date Extracted: 02/09/94

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 02/14/94

Injection Volume:

CAS NO.

2.0(uL)

COMPOUND

Dilution Factor:

0.119

GPC Cleanup:

(Y/N) N

pH: 7.0

**CONCENTRATION UNITS:** (ng/L or ug/Kg) ng/L

Q

271-89-6	2,3-Dibenzofuran	5	บ
496-11-7	2,3-Dihydroindene	ĭ	JR
95-13-6	IH-Indene	0.9	υ¨
	Naphthalene	5	BJ
4565-32-6	Benzo(B)Thiophene	0.9	Ū
91-22-5	Benzo(B)Thiophene	i	BJ
120-72-9	ÎH-Indole	2	ŭ l
	2-Methylmaphthalene	2 4	Β̈́Ι
90-12-0	1-Methylmaphthalene	Ż	BR
92-52-4	Biphenyl	<u> </u>	וֹטֹי
208-96-8	Acenaphthylene	i i	Ŭ Ï
83-32-9	Acenaphthene	ī	ŭ l
132-64-9	Dibenzofuran	i l	ŭ l
86-73-7	Fluorene	ī	B '
	Dibenzothiophene	īl	Ū
85-01-8	Phenanthrene	5	Βİ
	Anthracene	i l	Ū l
	Acridine	3	ŭΙ
	Carbazole	2	ŭ
	Fluoranthene	2 I	
129-00-0		Ž	B B
56-55-3	Benzo(A)Anthracene	ž	ūΙ
218-01-9	Chrysène	ā l	ŭ l
205-99-2	Benzo(B)Fluoranthene	ž	ŭ
207-08-9	Benzo(K)Fluoranthene	ž ,	·ŭ Ι
192-97-2	Benzo(E)Pyrene	5	:Ŭ
50-32-8	Benzo(A)Pyrene	5	Ŭ
198-55-0	Pervlène	<u> </u>	ับ
193-39-5	Indeno/(1.2.3-CD)Pyrene		Ŭ
53-70-3	Indeno(1,2,3-CD)Pyrene Dibenz(A,H)Anthracene	5	iŬ
191-24-2	Benzo(G,H,I)Perylene		ĭŭ l
		•	]
<del></del>	<del></del>	I	

Lab Name: ENSECO Contract: 33713-01FBD

PCJ-SEP6FBD-020894

Lab Code: ENSECO Case No.: 33713 SAS No.: SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: 33713-01FBD

**C8688** 

Sample wt/vol:

4200 (g/mL) ML

Lab File ID:

Level:

(low/med) LOW Date Received: 02/09/94

% Moisture:

decanted: (Y/N) N

Date Extracted: 02/09/94

Concentrated Extract Volume:

500(uL)

Date Analyzed: 02/14/94

Injection Volume:

2.0(uL)

Dilution Factor:

0.119

GPC Cleanup:

(Y/N) N

7.0 pH:

CONCENTRATION UNITS: (ng/L or ug/Kg) ng/L

CAS NO.	COMPOUND	(ng/L or ug/Kg) ng/L	Q
496-11-7 95-13-6 91-20-3 4565-32-6 91-22-5 120-72-9 92-52-4 208-96-8 85-01-8 120-12-7 260-94-6 86-74-8 206-44-0 129-00-0 56-55-3 207-08-9 192-97-2 193-39-5 193-39-5	2,3-Dibenzofu2,3-Dibenzofu2,3-Dihydroin1H-IndeneBenzo(B)ThiopQuinoline1-MethylnaphtBiphenylAcenaphthenePibenzofuranFluorenePhenanthreneArthraceneAcridineCarbazoleFluorantheneCarbazoleFluorantheneBenzo(A)AnthraceneBenzo(B)FluoranBenzo(B)Fluoran	hene halene halene e e ene anthene anthene e e CD) Pyrene thracene	510501232411111613221232222223

Lab Name: ENSECO Contract: 33713-01MS PCJ-SLP6MS-020894

Lab Code: ENSECO Case No.: 33713 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 33713-01MS

Sample wt/vol: 4200 (g/mL) ML Lab File ID: C8691

Level: (low/med) LOW Date Received: 02/09/94

% Moisture: decanted: (Y/N) N Date Extracted: 02/09/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/14/94

Injection Volume: 2.0(uL) Dilution Factor: 0.119

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ng/L or ug/Kg) ng/L Q

CAS NO.	CONTOOND (119/12 07	ug/kgy lig/L	
271-89-6	2,3-Dibenzofuran	5	U
496-11-7	2.3-Dihydroindene	<del></del>   32	
95-13-6	2,3-Dihydroindene	<u> </u>	1 1
91-20-3	Naphthalene		В
4565-32-6	Benzo(B)Thiophene	—  - <del>2</del>	ĮŘ Į
91-22-5	Quinoline	2 7 2 10 2	B I
1.20-72-9	1H-Indole	— į	lj l
91-57-6	2-Methylnaphthalene	─  <sub>1</sub> ō	lğ l
90-12-0	l-Methylnaphthalene	一  <u>-</u>	BR
92-52-4	Biphenyl	—  ī	j"
208-96-8	Acenaphthylene	—  <del>j</del>	
83-32-9	Acenaphthene	—l 16	
132-64-9	Dibenzofuran	16 2 13	İ
86-73-7	Fluorene	— l 13	lB I
132-65-0	Dibenzothiophene	-  ĭ	lŭ l
85-01-8	Phenanthrene		B
120-12-7	Anthracene	—  ĭ	lŭ l
260-94-6	Acridine	<del>1</del>	lŭ l
86-74-8	Carbazole	—  ž	lŭ l
206-44-0	Fluoranthene	—l 5	ğ
129-00-0	Pyrono	i	BJ
56-55-3	Benzo(A)Anthracene	—l 5	ا تا
218-01-9	Chrysene	<sup>5</sup>	
205_00_2	Benzo(B)Fluoranthene	<u> </u>	lu l
207-09-0	Benzo(K)Fluoranthene	—¦ 5	lŭ l
102-07-2	Benzo(E)Pyrene	<del></del>   5	lŭ l
132-31-2	Benzo(A)Pyrene	<b>—</b> ∣ 5	lŭ l
109_55_0	Perylene	6 1 3 2 2 1 2 1 2 3 2 2 2 2 2 2 2 2 2 2 2	lŭ ŀ
190-33-0	Indeno (1 2 3-Cli) Bunono	<b></b>	ا تا
133-33-3	Indeno(1,2,3-CD)Pyrene Dibenz(A,H)Anthracene	—	lŭ l
101_24_2_	Benzo(G,H,I)Perylene	5	lŭ l
131-64-6	benzo(u,n,1)rerytene		ا ۱

33713-01MSD

Lab Name: ENSECO Contract:

PCJ-SLP6MSD-020894

Lab Code: ENSECO Case No.: 33.713 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 33713-01MSD

Sample wt/vol: 4200 (g/mL) ML Lab File ID: C8692

Level: (low/med) LOW Date Received: 02/09/94

% Moisture: decanted: (Y/N) N Date Extracted: 02/09/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/14/94

Injection Volume: 2.0(uL) Dilution Factor: 0.119

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ng/L or ug/Kg) ng/L Q

271-89-62,3-Dibenzofuran 496-11-72,3-Dihydroindene 95-13-61H-Indene	5	Ü
496-11-72.3-Dihydroindene	26	<u> </u>
95-13-61H-Indene		
91-20-3Naphthalene	و ا	В
4565-32-6Benzo(B) Thiophene	2	[ .
91-22-5Quinoline	2 6	'B
120-72-91H-Indole	i	IJ
91-57-62-Methylnaphthale	<del>ne</del> 9	ŀΒ
90-12-01-Methylnaphthale	ne 2	BR
92-52-4Biphenyl	ne 9 ne 2	Ū
208-96-8Acenaphthylene	6	İ.Ř
83-32-9Acenaphthene	14	]
132-64-9Dibenzofuran	———— i	
86-73-7Fluorene	11	B
132-65-0Dibenzothiophene	ī	ΙŪ
85-01-8Phenanthrene	<u>5</u>	ŀB
120-12-7Anthracene	5 1 3 2 2 2 1	Ū
260-94-6Acridine	<del></del>   <u>3</u>	lŭ
86-74-8Carbazole	ž	ļŭ
206-44-0Fluoranthene	<del></del>   5	B
129-00-0Pyrene	<del></del>	BJ
56-55-3Benzo(A)Anthracen	<del></del>   5	โบ๊
218-01-9Chrysene	<u> </u>	
205-99-2Benzo(B)Fluoranth	ene 2	lu
207-08-9Benzo(K)Fluoranth	ane 2	Ιŭ
192-97-2Benzo(E)Pyrene		Ιŭ
50-32-8Benzo(A) Pyrene	<del></del>   5	lŭ
198-55-0Peryllene		Ιŭ
193-39-5Indeno(1,2,3-CD)P	e 2  ene 2  ene 2  yrene 2  cene 2  ene 3	Ιŭ
53-70-3Dibenz(A,H)Anthra	cene	Ιŭ
191-24-2Benzo(G, H, I) Peryl	ana 3	lŭ
		<u> </u>

# WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ENSECO

Contract:

Lab Code: ENSECO

Case No.: 33713

SAS No.:

SDG No.:

	SAMPLE NO.	SI (:NAP).#	S2 (FLU)#	S3 (CHR).#	HOIT OUT
	33713-01	76	58	42	0
03	33713-01DU  33713-01FB  33713-01FBD	83 83 70	64 68 56	46 76 68	ÖÖC
05	33713-01FBD   33713-01MS   33713-01MSD	76 64	60 52	32 32	000
	BLK01	77	60	70	ŏ

QC LIMITS S1 (NAP) = Naphthalene-d8 S2 (FLU) = Fluorene-d10 S3 (CHR) = Chrysene-d12 14-108) ( 41-162) ( 10-118)

<sup>#</sup> Column to be used to flag recovery values\* Values outside of contract required QC limitsD Surrogate diluted out

## WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ENSECO

Contract:

Lab Code: ENSECO

Case No.: 33713

SAS No.:

SDG No.:

Matrix Spike - EPA Sample No.: 33713-01

COMPOUND	SPIKE ADDED (ng/L)	SAMPLE CONCENTRATION (ng/L)	MS CONCENTRATION (ng/L)	, REC #	UC LIMITS REC.
1H-Indene Naphthalene Quinoline 2-Methylnaphthalene Fluorene Chrysene Benzo(E)Pyrene	9.520 9.520 9.520 9.520 9.520 9.520		7.937 10.95 7.057 10.14 12.85 3.320 0.455	68 87 64 91 74 35	20-150 20-150 20-150 20-150 20-150 20-150 10-150

COMPOUND	SPIKE ADDED (ng/L)	MSD CONCENTRATION (ng/L)	MSD % REC #	% RPD #	OC L	IMITS REC.
1H-Indene Naphthalene Quinoline 2-Methylnaphthalene Fluorene Chrysene Benzo(E)Pyrene	9.520 9.520 9.520 9.520 9.520 9.520	6.581 9.211 6.331 8.508 10.88 3.118 0.476	54 69 56 73 53 53 5	23 23 13 22 33 *	28 28 28 28 28 28 28 28	20-150 20-150 20-150 20-150 20-150 20-150 10-150

<sup>#</sup> Column to be used to flag recovery and RPD values with an asterisk
\* Values outside of QC limits

## COMMENTS:

# SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

BLK01

Lab Name: ENSECO Contract:

Lab Code: ENSECO

Case No.: 33713

SAS No.:

SDG No.:

Lab File ID:

C8686

Lab Sample ID: BL020994

Instrument ID:

Date Extracted: 02/09/94

4'500-C

Date Extracted. 02/03/34

Matrix: (soil/water) WATER

Date Analyzed: 02/14/94

Level: (low/med)

LOW

Time Analyzed: 1.723

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

SAN	EPA IPLE NO.	LAB SAMPLE ID	FILE ID	DATE ANALYZED
01 3371 02 3371 03 3371 04 3371 05 3371	3-01DU 3-01FB 3-01FBD	33713-01 33713-01DU 33713-01FB 33713-01FBD 33713-01MS 33713-01MSD	C8689 C8690 C8687 C8688 C8691 C8692	02/14/94 02/14/94 02/14/94 02/14/94 02/14/94 02/14/94

**COMMENTS:** 

BLK01

Lab Name: ENSECO

Contract:

Lab Code: ENSECO

Case No.: 33713

SAS No.:

SDG No.:

Matrix: (soil/water) WATER

4000 (g/mL) ML

Lab File ID:

**C8686** 

Sample wt/vol:

Level: (low/med) LOW

Date Received:

% Moisture:

decanted: (Y/N) N

Concentrated Extract Volume:

Date Extracted: 02/09/94

Lab Sample ID: BL020994

500(uL)

Date Analyzed: 02/14/94

Injection Volume:

CAS NO.

2.0(uL)

COMPOUND

Dilution Factor:

0.125

GPC Cleanup: (Y/N) N

pH: 7.0

**CONCENTRATION UNITS:** (ng/L or ug/Kg) ng/L

Q

271-89-6	2,3-Dibenzofuran 2,3-Dihydroindene 1H-Indene		i U
496-11-7	2.3-Dihydroindene	j	Ü
95-13-6	lĤ-Indene	l	i.9 Ŭ
91-20-3	Naphthalene		
4565-32-6	Benzo(B) Thiophene	i	).9 Ú
91-22-5	Quinoìine		
120-72-9	ÎH-Indolie		ÙÜ
91-57-6	2-Methylnaphthalene	<del></del> i ŝ	
90-12-0	1-Methylmaphthalene	i	. IJR
92-52-4	Biphenyl		
208-96-8	Acenaphthylene		. lū i
83-32-9	Acenaphthene		. lu
132-64-9	Dibenzofuran		Ü
86-73-7	Fluorene		, I <sup>-</sup> .
132-65-0	Dibenzothiophene	1	.  U
85-01-8	Phenanthrene	i	'   <sup>-</sup>
120-12-7	Anthracene	1	U
260-94-6	Acridine	<del></del>   3	ו טו
	Carbazole	<del></del>   2	ו עו י
	Fluoranthene	<del></del>	.   '
129-00-0		<del></del>   2	
	Benzo(A)Anthracene	<del></del>   2	i lu l
218-01-9	Chrysene		i lü l
205-99-2	Benzo(B)Fluoranthene		lū.
207-08-9	Benzo(K)Fluoranthene	<del></del> 1 2	ÜÜ
192-97-2	Benzo(E)Pyrene	———— l	i lŭ l
50-32-8	Benzo(A)Pyrene	I <u>2</u>	i lù i
198-55-0	Pervlene		i lŭ 🔻
193-39-5	Indeno(1,2,3-CD)Pyrene		i lü l
53-70-3	Dibenz(A,H)Anthracene	<u></u>	i lŭ '
191-24-2	Benzo(Ġ,H,I)Perylene	<del></del>   3	i lŭ l
			—_ I ——————————————————————————————————

## SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO Contract:

Case No.: 33713 Lab Code: ENSECO SAS No.: SDG No.:

Lab File ID (Standard): C8685 Date Analyzed: 02/14/94

Instrument ID: 4500-C Time Analyzed: 1602

	12 HOUR STD		RT # 14.27 14.77	1S2(PHN) AREA # 562456 1124912	RT #	IS3 (BAP) AREA # 249474 498948	RT # 27.79 28.29
	LOWER LIMIT	212270	13.77	281228	17.50	124737	27.29
	EPA SAMPLE NO.	'		}			ı
01 02	33713-01 33713-01DU	596239 741470	14.22 14.22	697147 857141	17.97 17.97	231352 255782	27.86 27.87
03 04 05	33713-01FB 33713-01FBD 33713-01MS	507752 571945 648806	14.25 14.22 14.24	604480 654268 726463	17.97 17.97 17.97	245072 256378 221679	27.87 27.87 27.87
	33713-01MSD	664928 395913	14.25 14.12	764681 488053	17.99 17.85	229030 202462	27.87 27.74
'					li		i

IS1 (ACN) = Acenaphthene-D10 IS2 (PHN) = Phenanthrene-D10 IS3 (BAP) = Benzo(A)Pyrene-D10

AREA UPPER LIMIT = + 100% of internal standard area. AREA LOWER LIMIT = - 50% of internal standard area. RT UPPER LIMIT =  $\pm 0.50$  minutes of internal standard RT. RT LOWER LIMIT =  $\pm 0.50$  minutes of internal standard RT.

<sup>#</sup> Column used to flag internal standard area values with an asterisk.
\* Values outside of QC limits.